

Technology Deployment Initiatives and Partnership Program

Request for Funding FY 2003

FHWA Strategic Goal Area:

Productivity

Project Title:

Road Seals Evaluation

Problem Statement:

Many agencies desire to provide limited road access while maintaining a low impact on the environment. To this end, road development is kept to a low level of impact by providing a minimal cross section, pavement structure, and appurtenances. It is important to determine which of the available surfacing methods will provide a durable, environmentally friendly, aesthetically pleasing, and cost effective road surface treatment for these programs.

Proposal:

Compare the performance, aesthetics, and cost effectiveness of Chip Seals, Slurry Seals and Cape Seals (a Slurry Seal over a Chip Seal) placed over an existing paved surface for low volume roads. In addition, a segment of gravel road will be treated with a cape seal. Establish evaluation criteria with an experienced research engineer to identify existing literature from previous projects, and determine appropriate field tests, laboratory tests, and field observations.

Benefits:

A definitive analysis will help guide the decisions on selection and life cycle costs. Based on the results of this study, the cost effectiveness of more durable products may result in lower life cycle maintenance costs, longer service life, less traffic disruption, and improved safety for the motorists.

Resources/Cost:

A research engineer is needed to guide the evaluation and report on the findings, a partnership with a university is anticipated. A competitive contract will be used to construct the test segments. A low volume road agency will be selected to offer a route, participate in the evaluation set up, and provide feedback on performance. The initial literature search, site selection and construction of test segments using the four treatments identified above, will be completed during FY 2003. The evaluation and reporting will continue for two years following construction. Estimated cost for Construction of up to 6.0 miles of four seal types on an existing 20 foot wide grade is \$155,000. Estimated cost for the research engineer guidance is \$25,000. During the evaluation period FY 2004 and FY 2005 the testing is estimated to cost \$7,500 each year, for a testing total of \$15,000. The total estimated cost is \$195,000; FY 2003= \$180,000; FY 2004 & FY 2005= \$7,500.

Duration:

Literature search, evaluation criteria including testing plans, and construction of three types of seals during FY 2003, about ten months.

Follow up evaluations on an annual basis and laboratory testing would continue for two years following completion of construction, through FY 2005.

Organization/Method:

A research engineer from a partner university will guide the study, compile the literature search and complete all testing and reporting. A competitive contract will construct the three types of seal treatments. The partner road agency will provide the site and participate in the construction and field observations.

Submitter:

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